

What is claimed is:

- 1 1. An experimental model for evaluating the effect of a medicine against asthenopia,
2 wherein said asthenopia is caused by inducing repeated contraction in vitro of
3 ciliary muscle from a non-human animal until said ciliary muscle shows a
4 substantially stable decrease in the tension of muscular contraction.
- 1 2. The experimental model of claim 1, wherein said asthenopia is accommodative
2 asthenopia.
- 1 3. The experimental model of claim 1, wherein the ciliary muscle has been derived from a
2 non-human mammal or fowl.
- 1 4. The experimental model of claim 2, wherein the ciliary muscle has been derived from a
2 non-human mammal or fowl.
- 1 5. The experimental model of claim 3, wherein the ciliary muscle has been enucleated
2 from a non-human mammal.
- 1 6. The experimental model of claim 4, wherein the ciliary muscle has been enucleated
2 from a non-human mammal.
- 1 7. The experimental model of claim 1, wherein the ciliary muscle is contracted a plurality
2 of times by the use of smooth muscle contraction-inducing means.
- 1 8. The experimental model of claim 7, wherein the smooth muscle contraction-inducing
2 means comprise a chemical stimulant.
- 1 9. The experimental model of claim 8, wherein the chemical stimulant is selected from the
2 group consisting of acetylcholine, serotonin, histamine, muscarine, nicotine and
3 endothelin.
- 1 10. The experimental model of claim 7, wherein the smooth muscle contraction-inducing
2 means comprises an electrical stimulant.

1 11. The experimental model of claim 1, wherein the contraction of ciliary muscle is
2 repeated at least three times to give a substantially stable decrease in the tension of
3 muscular contraction.

1 12. The experimental model of claim 1, wherein said ciliary muscle shows a decrease of
2 $50\pm 30\%$ in the tension of muscular contraction.

1 13. The experimental model of claim 1, wherein said ciliary muscle shows a decrease of
2 $50\pm 20\%$ in the tension of muscular contraction.

1 14. The experimental model claim 1, wherein said ciliary muscle shows a decrease of
2 $50\pm 10\%$ in the tension of muscular contraction.

1 15. A method of preparing an in vitro experimental model for evaluating the effect of a
2 medicine against asthenopia, which comprises the step of inducing repeated
3 contractions of ciliary muscle derived from a non-human animal until said ciliary
4 muscle shows a substantially stable decrease in the tension of muscular
5 contraction.

1 16. A method for evaluating a medicine against asthenopia, comprising the steps of
2 contacting the ciliary muscle from a non-human animal in the experimental model
3 of claim 1 with said medicine, and measuring the effect of said medicine on the
4 contraction of said ciliary muscle.

1 17. The method of claim 16, wherein the effect of the medicine is evaluated by comparing
2 the decrease in tension of muscular contraction before and after contacting with the
3 medicine.

1 18. The method claimed of claim 16, carried out with use of a Magnus apparatus.